Teacher as Researcher: An Impetus for Change

Karl Hook
Florida State University School

ABSTRACT. Most teachers teach the way they were taught or in a way that is compatible with their learning style. Any changes they make are usually superficial; rarely do teachers change their underlying pedagogical beliefs and assumptions. This reflective paper, written from a contructivist perspective, illustrates the importance of collaborative research in stimulating teacher change. Based on a longer ethnographic autobiography, it details the personal story of how a teacher-as-researcher project helped one teacher overcome the effects of professional isolation, and altered the teacher's beliefs from an objectivist set of beliefs based on technical interests to a more constructivist perspective based on students' emancipatory interests. The article concludes with a set of assertions for facilitating teacher change in a collaborative research model.

Journal Entry, February 10, 1992

A prevalent attitude in education is survival. If I, as the teacher, make it through the day, week, and school year, it has been a successful teaching experience. This may be offensive, or seem a little extreme, but as a teacher who has had this attitude and has taught seven years with colleagues that have this attitude, in my perspective the attitude of just getting by permeates the educational environment. I am not saying that teachers do not care. On the contrary, the vast majority of teachers do care, but because of their isolation in the classroom and lack of stimulation for reflection, teachers get frustrated. They realize that changes need to be made for the benefit of the students and for themselves, but they do not know what to change or how to make the changes.

Most teachers teach the way that they were taught or in a way that is compatible with their learning style. The ways of thinking that they were exposed to for 12 years in grade school and usually four years of college becomes rooted in their beliefs and practice, even when teacher preparation courses such as methods, curriculum and instruction, and educational psychology stress alternative ideas for guiding practice. When beginning teachers enter the profession, the strategies that they have experienced become their mode of operation. Teachers become stagnant and more resistant to change after they have been teaching a short period of time. If they do change, it is usually in terms of the content presented or in the method of presenting material. These superficial changes are often the result of using a new text, following a state mandate, or hearing about a new method at a workshop presentation. Rarely do teachers change their underlying pedagogical beliefs about teaching and learning.

In this paper, which is drawn from a longer ethnographic autobiography, I illustrate the importance of collaborative research in stimulating teacher change. It is a personal story of how a teacher-as-researcher project helped me overcome the effects of professional isolation and moved me away from an objectivist set of beliefs embedded in technical interests to a more constructive belief system built upon the students' emancipatory interests.

Theoretical Framework

This reflection paper is written from a constructivist perspective that I have been moving toward for the past three years. Constructivism is a social process based on the premise that individuals build knowledge through experience (von Glaserfeld, 1989). Each person's knowledge is different based on their prior experience and their unique ways of giving meaning to that experience. Knowledge can take several forms, including beliefs and actions. The more frequently an individual uses his or her specific knowledge to attain given goals, the more difficult it will be for that person to change. My particular knowledge that I endeavor to change, beliefs about objectivism and technical interests, has been internalized since childhood.

Objectivism is a belief that assumes knowledge can be meaningfully considered as separate from the knower (Lakeoff, 1987; Putnam, 1981; Tobin, 1991). One metaphorical view of a basic objectivist premise is that knowledge is water that can be poured into a learner's head. A second premise of objectivism is that knowledge is nothing more than a set of truths to be learned.

A teacher holding an objectivist perspective tends to see himself/herself as the imparter of knowledge. For learning to occur, the objectivist believes that the

teacher should be the focus of the classroom. Objectivism is most commonly associated with technical interests, which Grundy (1987) defined as a basic orientation toward controlling and managing the environment, where control is achieved through rule-following actions based on empirically grounded laws.

My teaching metaphor was that of a warden controlling the classroom as a jailer controls the inmates. In order to best facilitate learning, I had to develop new images of teacher-student interaction while developing my referents. In this paper I describe how I moved from using objectivism as my primary referent for teaching to using a variety of referents for teaching and learning, including constructivism, emancipatory learning, and Sockett's (1991) five virtues of ethical conduct.

Methods

This interpretive study is based on my reflections of the journal entries I made and the data collected by several research teams interacting with me over the past five years. I am currently involved in a research team project with two university investigators who have read field notes and transcripts of three research projects conducted in my classroom. In order to stimulate my reflections on change, the team met twice weekly for an hour beginning May 1991 and continued throughout the summer. Topics for discussion came from past field notes and transcripts and from observations the researchers made of my classroom the last six weeks of school. All team meetings were tape recorded and transcribed, with key points from the transcriptions becoming the foci for further discussions. The members of the research team worked together to analyze the data. We identified several areas of teacher change: teacher knowledge, ethical dilemmas, cooperative learning, alternative assessments of student learning, laboratory safety, metaphors, and overcoming constraints to change. HYPERQUAL, a Macintosh program, was used in the data analyses.

Two unique elements of this study are its longitudinal nature and the fact that all interactions (verbal and observations), field notes, transcriptions, and products become sources for further reflection. Even this paper that describes my reflections of what was needed in order for me to change my teaching beliefs provides a means of helping me interpret my experience.

Early Beginnings

A reflection paper on teacher change must begin with a look at that teacher's early school years, since it is then that his or her image of the teaching process is formed. In most cases that image can be so entrenched that no matter how much the teacher wants to change, the image manifests itself through the teacher's

practices. Because of constraints on the length of this paper, not all my memories are shared here, and I can only allude to brief vignettes to illustrate major factors that led to my choice of teaching as a career.

I recall that in fifth grade I had a difficult time understanding some "basic" math concepts, and the teacher made me feel "dumb." Because of this experience, I decided that when I grew up I would become a teacher and be understanding of students' needs, and that learning activities should be relevant to the learner. From an unpleasant experience with a coach who used the physical education class to make students serve as a ground crew in picking up trash on the fields, I decided not to impose meaningless work on students who had no voice in negotiating the activities which took place. Finally, I remember being extremely bored with my high school classes, and because I "acted out" my frustrations at learning the same things in 12th grade that I learned as a freshman, I was told that I should forget going to a major university and instead enroll in a local community college to learn a trade. I can still remember that conference with the guidance counselor, and wonder how any person working with students can make such snap judgments and crush the dreams of the students he/she should be helping.

The Beginning Teacher

I entered the teaching profession with an image of teaching that included the teacher standing in front of the classroom for an entire period "passing out truths" that the students had to memorize and regurgitate on a future test. The students were to be robots, obedient to the demands of the teacher. When the teacher was not talking, the students were expected to read out of the textbook and answer questions at the end of the chapter. The students were there for the teacher's benefit, and their thoughts, feelings, and desires did not matter. I was teaching the way I had been taught.

In my classroom, students were expected to complete the work I assigned, when I assigned it, as I assigned it, regardless of whether they understood it or not. Tests were multiple choice recall and the students' answers had to match those given in the teaching manual. I wanted complete control, with no student thinking or expressing contrary ideas. I taught what the textbook said to teach.

At some point I realized I had become the teacher I had despised--stifling students' creative investigation and independent thought by impressing upon them that there is only one correct answer and that it was in the book. I wanted to change my behavior but I did not know how. I had seen no other teaching technique, never watched another teacher teach, had no one to talk to, much less

share ideas. Other teachers saw no problem with what I was doing; they were doing the same thing.

The next year I transferred to a K-12 school that was progressive and where promoting teacher change was one of the school's goals. I shared a classroom with one of the premier science teachers in the area. This teacher, Rex[1] had been recognized at the state level many times for his teaching ability. Both of us taught two sections of biology and I taught three sections of 8th grade general science. I often observed Rex as he taught, and as I sat listening to him lecture, I looked at the students' stone faces that reflected boredom. The students were turned off, Rex was turned off, I was turned off. There was no excitement in the classroom. Everyone was listless.

Rex presented interesting material (at least interesting to Rex and myself), but it was not relevant to the students. Rex and I were bored because of the lack of interaction between the students and ourselves, and the way the material was delivered. Rex did do some different things in the areas of assessment, field experiences, and classroom structure that presented to me a different image of teaching. But the curriculum was controlled by the teacher, grades still drove what occurred in the classroom, and the students were still not learning with understanding. I began seeing different ways of presenting the material and giving tests, but the end was still the same. Both Rex and I were still in a technical objectivist mind set. Although I saw different strategies, I did not internalize the vision and put my knowledge into action. After one year I had made no progress in becoming the teacher I wanted to be.

Mentor Teacher Program

During the spring of the following year, the mentor teacher program was introduced to the school. The program paired teachers together for the benefit of both. Teachers were to observe each other in the classroom and give feedback as to what was happening. The pair was to include a veteran teacher and a less experienced one.

This program only increased my frustration. The experienced teacher I was paired with had the students facing forward, sitting individually as they answered questions at the end of the chapter, completed "cookbook" laboratory exercises, or answered fill-in-the-blank questions about the film they were watching. The students had no autonomy, learning with understanding did not seem to be

---

[1] All names used in this paper are pseudonyms.

important, and I had a dictatorial image of teaching. When I asked this teacher about his metaphors for teaching, they were: "teacher as policeman," "teacher as warden," "teacher as baby sitter."

My frustrations increased with the feedback I received from my mentor. Every time Fred made an observation, he would stick a tally sheet in my mail box. The tally would have no written feedback on it except the number of times a particular student was off task, the number of times I said "OK," and the percent of times I spoke to one side of the room. This information did not help me, as I was already aware of these practices. What I needed was ideas on how to change them. Whenever I wanted to speak to Fred, he was always too busy to discuss it. I wanted desperately to get out of this project because of the negative effect on my teaching. I would leave school thinking I was at another school where the teachers did not care about the students. The extra time spent observing other teachers did not pay off because the practices I observed were those I was trying to eliminate, and there was no discussion among teachers as to how to make changes. After four years I was the same teacher demonstrating the same behaviors I had not liked in my teachers in the previous 20 years.

Teacher as Researcher

During my fifth year of teaching, the third at this school, a project was introduced to take the place of the mentor teacher program. Teachers were to choose an area in their classroom that they wanted to change. The teacher would share that concern with all other participants in the program, and when they came to observe, that behavior would be targeted. The participants in the project were all science teachers at the school. Each was to conduct research on themselves and collect data for other teachers. The topics we focused on were: wait time, target students, the number and types of questions asked, student response time to questions, and gender and race differences in teacher responses to students.

Once again, this project heightened my awareness but it had little effect on my practice. Although I asked different kinds of questions, and targeted different students, I was still in control of the learning activities and still making myself responsible for the students instead of them being responsible for themselves. Knowledge was still a commodity to be poured into students' heads for them to memorize and spit out again at a later date. Information had to be just as I had outlined, with no individual variance.

In addition to my colleagues conducting research, the local university's science education department became involved in classroom observations. The students were to conduct research in the classroom in the teacher-as-researcher

model, but the topic was one they chose, not the classroom teacher, who may not have been interested in it. The field notes and papers these people shared stagnated any change that might have taken place in my practices when I found that the science education students would observe my class once or twice a week, pass judgment on me, and share their interpretations of my intentions with other students in the program without once asking me for my opinions about my own teaching. I interpreted this behavior not as someone looking out for my needs, but as someone looking out for her own. "Don't anger Karl or he'll walk away from the project and I won't get my research done." My distrust was based on prior experiences with "reformers" who came into the classroom to help, but when they got the information they needed, they walked away.

Journal entry, December 13, 1988

> Well, she just stopped coming. I didn't see her but those two times.
> From my understanding she was supposed to come on a regular basis to
> find out what was going on. Instead she took my files and has not been
> seen since. It's not that I am unwilling to grow. I am willing to look
> back at myself and grow. I don't know if I am willing to put forth effort
> for somebody else's research project right now when we've already been
> told X, Y and Z was going to happen and they didn't happen.

My salvation arrived in the fall of my sixth year of teaching. It was again in the form of a teacher researcher; however, my co-participants were not colleagues or science education majors, but pre-service teachers enrolled in an educational psychology class at the local university. Each team of three students and a practicing teacher were to negotiate areas of study and conduct a literature review as well as collect field notes and interview the teacher and students in order to collect information for a research paper for publication.

After each student researcher had observed one of my classes twice, the team sat down to discuss what topic would be investigated. The first group interaction was a leap toward true change. It was the first time that the focus was on my vision rather than on what was happening.

Student: What do you want the students in your class to be able to do?

Karl: Be able to think for themselves, to make higher-order connections and
 be able to show the relationships between these concepts and their
 lives. That students should do science and not just read about it.

The pre-service student then asked why these things were not happening.

Karl: Lecturing to the students and acting as if you, the teacher, are the final authority, having the students read the textbook and using a single textbook as the sole source of information, covertly sending the message that the book has all the answers and that scientific knowledge has already been discovered. Having the students follow the laboratory procedures that are found in the textbook that are confirmatory in nature, have been completed thousands of times, require no understanding of the concepts, just following procedures, and having only one correct answer, the publisher's. Finally, when questions are asked, allowing the students to respond with one-word answers and not expecting them to explain it or answer why.

This was the first time I recall anyone asking me what I wanted to see in the class, and it forced me to reflect not just on my actions, but to compare my perceived curriculum with the intended one. For the next eight weeks the students came into class and made their observations. However, there was a major difference between these students and the others who had made observations: it was two-way communication. Before each class period, the students asked me what I intended to do that day to increase the students' responsibilities for their learning, make connections between concepts, and focus on learning for understanding. Afterwards, the students asked me if I had met the goal or reverted back to old behaviors. They would cite examples of actions and describe how they perceived the action, and the messages they received. Most importantly, they caused me to reflect on the reason I did certain things.

This type of interaction helped me begin the transition from the teacher I did not want to be. Many questions were asked that required reflection on my practices and the rationale behind them. If a practice could not be justified, it became the focus for the next set of observations, in an attempt to extinguish it. Yet these interactions did not help me make the transition to a new kind of teacher because the image was not clear.

My Transition - Forming an Image

Because of the success I felt the teacher-as-researcher program was having to help avoid negative practices, I invited a second set of researchers into the classroom to assist in the change. Two new science teachers and I began meeting once a week to discuss what was going on in our classrooms, what we would like to have going on, and what we could do to have the intended and achieved curriculum become a closer match. We began our own teacher-as-researcher program, giving each other feedback as well as exchanging new ideas. Throughout

the year we each read different authors' versions of ideal classrooms. During our weekly meetings we shared what we had read and discussed various excerpts using what we liked from each article.

I began developing a new image of the ideal classroom. My original idea of what students should be doing in the classroom became an image as the group discussed Grundy's (1987) interpretations of Habermas' critical theory and various interpretations of constructivism. As my image of the desired classroom grew stronger, I invited science education researchers back into my classroom. Through our discussions and reflections during various collaborative research projects, my behaviors changed. As evident in the paper we produced, The Construction and Reconstruction of Teacher Knowledge (Tobin, Tippins, & Hook, 1992), not only are my old undesirable actions no longer as obvious, but I also no longer value the referents underlying them.

Conclusion

As a result of my experience in attempting to change from unintentionally learned behaviors to more desirable teaching practices, I can make several assertions. First, beginning teachers bring into their profession a set of referents for teaching. These images are based on their experiences as learners. These images become personally viable because of the number of years the individual has been exposed to them and experienced some success. As a result, they manifest themselves in the teacher's actions. The images can be so strong at times that the teacher reverts back to them even though he/she is consciously aware of them as well as alternative practices.

Second, as long as teachers are isolated from other teachers, practices will not change. Teachers need to have an opportunity to observe good teaching practices, to be given an opportunity to discuss what they have seen, both good and bad, and to have time provided for reflection on their own practices. Observations should not simply be tally marks that indicate the frequency of a behavior's occurrence, but should also include suggestions for extinguishing the behavior and adopting alternative behaviors. Teachers should be challenged as to what they believe are good teaching practices and, more importantly, why. If a teacher cannot rationalize a behavior in a way that is beneficial to student learning and not just surviving, the behavior should be modified. A corollary is that the more successful (i.e., surviving) a teacher has been using particular actions, the more difficult it will be to extinguish those actions. Successful practice leads to the knowledge that one's beliefs and actions are viable.

Finally, the teacher in transition needs to be involved in his/her own change research in collaboration with others who assist in his/her reflection. A good collaborator is one who asks probing questions. However, the teacher must feel safe. The teacher needs to have assurances that the collaborating researcher will not pass judgment or share negative findings or potentially harmful gossip about classroom events. The collaborator needs to be supportive of the teacher's change, and be sensitive to the internal turmoil that accompanies change, especially when the transition is from long-entrenched beliefs to new, frequently uncomfortable actions.

The teacher-as-researcher metaphor is a strong one for educational reform. Teachers must be part of the process and be asked to reflect on their own actions. But it must take place when teachers are ready. I need to remember this fact whenever I see something in school that I do not agree with and say, "We need to go into schools and change things" or "We need to provide an in-service to get these people up to speed." The transition may seem like a long, hard road to travel, but with a strong desire to change, a clear vision as a destination, reflection and support, change for the betterment of teaching and learning will occur.

References

Grundy, S. (1987). Curriculum: Product or praxis? London: Falmer Press.

Lakeoff, G. (1987). Women, fire, and dangerous things. Chicago: University of Chicago Press.

Putnam, H. (1981). Reason, truth and history. Cambridge: Cambridge University Press.

Sockett, H. (1991, April). Virtue and wisdom: Teaching as a moral career. Paper presented at the annual meeting of the American Education Research Association, Chicago.

Tobin, K. (1991, April). Referents for making sense of teaching. Paper presented at the annual meeting of the American Educational Research Association, Chicago.

Tobin, K., Tippins, D., & Hook, K. (1992, April). The construction and reconstruction of teacher knowledge. Paper presented at the annual meeting of the American Educational Research Association, San Francisco.

von Glaserfeld, E. (1989). Cognition, construction of knowledge, and teaching. <u>Synthese</u>, <u>80</u>(1), 121-140.

Hook, Karl, Teacher Researcher, Florida State University School, Florida State University B-166, West Call Street, Tallahassee, FL 32306